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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,319	12/21/2001	Edward Y. Chang	509952000100	4669

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EXAMINER

LEROUX, ETIENNE PIERRE

ART UNIT	PAPER NUMBER
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2171

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DATE MAILED: 05/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/032,319

Applicant(s)

CHANG ET AL.

Examiner

Etienne P LeRoux

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8, 9.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Drawing Objections

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include reference sign(s). A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Furthermore, there appears to be a Figure X which is not acceptable as figures must be numbered sequentially. Still further there appears to be two (2) figures labeled Figure 1, two (2) figures labeled Figure 4, two (2) figures labeled Figure 5, two (2) figures labeled Figure 6, two (2) figures labeled Figure 7, and two (2) figures labeled Figure 8.

Content of Specification

(a) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:

- (1) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."
- (b) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.

- (c) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f).
A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.

Specification Objection

The incorporation of essential material in the specification by reference to a foreign application or patent, or to a publication is improper. Applicant is required to amend the disclosure to include the material incorporated by reference. The amendment must be accompanied by an affidavit or declaration executed by the applicant, or a practitioner representing the applicant, stating that the amendatory material consists of the same material incorporated by reference in the referencing application. See *In re Hawkins*, 486 F.2d 569, 179 USPQ 157 (CCPA 1973); *In re Hawkins*, 486 F.2d 579, 179 USPQ 163 (CCPA 1973); and *In re Hawkins*, 486 F.2d 577, 179 USPQ 167 (CCPA 1973).

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
2. Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

For example, claim 1 recites “wherein refining the user concept sample space further includes refining the boundary k-CNF expression” and further claim 1 recites “wherein refining

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the user query concept sample space includes refining the boundary k-DNF expression.” The specification fails to provide an enabling teaching that would enable one of ordinary skill in the art to make or use the claimed invention. Likewise, the following are also not enabled, or at the very least would not be enabled without extensive undue experimentation:

- i) boundary k-CNF expression
- ii) boundary k-DNF expression

To summarize, examiner finds it difficult to understand the methodology of the present invention. The user, (i) selects sample images, (ii) identifies disjunctive terms of the boundary k-CNF expression and (iii) identifies conjunctive terms of the boundary k-DNF expression. Considering the above, it is unclear how the user learns in order to modify the query so that a better search for a visual image can be made.

Claim 19 includes language similar to supra claim 1 limitations

Claims 2-18 and 20 are rejected for being dependent from a rejected base claim.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

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4. Claims 1-20 are rejected under 35 U.S.C. 102(a) as being anticipated by E Chang, L Beitao, MEGA – The Maximizing Expected Generalization Algorithm for Learning Complex Query Concepts (hereafter Chang - MEGA).

Regarding claims 1 –20, Chang – MEGA discloses:

providing a multiplicity of respective sample expressions encoded in computer readable medium that respectively correspond to respective sample images and in which respective terms of such respective sample expressions represent respective features of corresponding sample images [Pg 16, paragraph 5.1]

defining a user query concept sample space bounded by a boundary k-CNF expression which designates a more specific concept within the user query concept sample space and by a boundary k-DNF expression which designates a more general concept within the user query concept sample space [Pg 9, first paragraph]

refining the user query concept sample space by selecting multiple sample images from within the user query concept sample space, selecting multiple sample images from within the user query concept sample space presenting the multiple selected sample images to the user soliciting user feedback as to which of the multiple presented sample images are close to the user's query concept [Pg 9, Step 2b]

wherein refining the user query concept sample space further includes refining the boundary k-CNF expression by identifying respective terms of respective sample expressions that contradict

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corresponding respective disjunctive terms of the boundary k-CNF expression for those respective sample expressions corresponding to respective sample images indicated by the user as close to the user's query concept determining which if any respective disjunctive terms of the boundary k-CNF expression identified as contradicting corresponding respective terms of sample expressions indicated by the user as close to the user's query concept to remove from the boundary k-CNF expression, removing from the boundary k-CNF expression respective disjunctive terms determined to be removed [Pg 9, Step 2c1]

wherein refining the user query concept sample space further includes refining the boundary k-DNF expression by identifying respective terms of respective sample expressions that contradict corresponding respective conjunctive terms of the boundary k-DNF expression for those respective sample expressions corresponding to respective sample images indicated by the user as close to the user's query concept, determining which if any respective conjunctive terms of the boundary k-DNF expression identified as contradicting corresponding respective terms of sample expressions indicated by the user as close to the user's query concept to remove from the boundary k-DNF expression, removing from the boundary k-DNF expression respective conjunctive terms determined to be removed [Pg 9, Step 2c2]

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. US Pat. No. 6,377,945 issued to Risvik discloses search algorithms for determining the degree of matching between words and/or symbols.

2. US Pat. No. 5,666,528 issued to Thai discloses a learned optimization method for on-the-fly learning of records which meet a filter condition.

3. US Pat. No. 6,408,293 issued to Aggarwal et al discloses adjusting a query according to information fed-back by the user regarding the relevance of previously extracted parts such that the adjusted query is a better approximation to the user's perception.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Etienne LeRoux whose telephone number is (703) 305-0620.

The examiner can normally be reached on Monday – Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic, can be reached on (703) 308-1436.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Etienne LeRoux

May 20, 2003



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